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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JANAKIRAMAN, NITHYA

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,494

Applicant(s)

HAMLIN, CHRISTOPHER L.

Examiner

Nithya Janakiraman

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

The amendment filed on 9/25/06 has been received and considered. Claims 1-46 are presented for examination.

Response to Amended Claims

1. Amendments to claims 2, 17, and 32 have been acknowledged and considered.

Claim Objections

2. Claims 1, 16, and 31 are objected to because of the following informalities: "said common input variables", previously "input variables", lacks antecedent support. References to the same limitation should remain consistent. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 3, 4, 5, 7, 10, 16-20, 22, 25, 31, 35, 37 are rejected under 35

U.S.C. 103(a) as being unpatentable over Lee, US Patent No. 6,795,800 (hereinafter Lee), further in view of Henrichs et al., US Patent No. 5,247,468 (hereinafter Henrichs). Lee discloses a method for statistically simulating the performance of an integrated circuit by extracting parameter sets (see Abstract). However, Lee does not disclose displaying the output of the statistically simulated performance. This is accomplished by Henrichs, who discloses displaying the user-defined output parameters. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine 1) receiving input, 2) processing the input, and 3) displaying the output, motivated by the desire to have the user more easily and readily assess the visual output, which saves time and energy.

1. Claims 6, 8, 9, 11, 12, 13, 14, 21, 23, 24, 26-29, 36, 38, 44 are rejected under 35

U.S.C. 103(a) as being unpatentable over Lee, US Patent No. 6,795,800 (hereinafter Lee), further in view of Henrichs et al., US Patent No. 5,247,468 (hereinafter Henrichs), further in view of the Microsoft Excel™ spreadsheet program. Neither Lee nor Henrichs discloses setting input variables with a slider in a task window, nor using 3-D plots, scatter plots, and bar charts, nor the use of different colors. The Microsoft spreadsheet program Excel™ is capable of all of these functions. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine these functions with the previous two inventions, motivated by the desire to

have this well-known and widely used statistical program to cut down on time, effort, and cost in the creation of the desired output.

2. Claims 15, 30, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, US Patent No. 6,795,800 (hereinafter Lee), further in view of Henrichs et al., US Patent No. 5,247,468 (hereinafter Henrichs), further in view of the Microsoft Excel™ spreadsheet program, and further in view of "Using Applets in Teaching Mathematics" by Heath (hereinafter Heath). In addition, Heath discloses the concept of moving a value along a slider to change a graphic representation dynamically in real time. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate this functionality into the invention, motivated by the desire to see the immediate results of modifying parameters, thus easing the use of the program and allowing users to more confidently perform "what-if" analysis.

3. Finally, the concept of the client-server relationship is a well-known idea in computer processing, and thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to have this widely used relationship for the comparing integrated circuit technologies motivated by the desire to have convenience in accessing and processing data.

4. For claim 1, Lee and Henrichs teach:

A method for comparing integrated circuit technologies, comprising:

(a) receiving input variables for a plurality of integrated circuit technologies (See Lee, col. 2, lines 15-19, Fig. 2);

(b) processing said common input variables (See col. 3, lines 55-59); and
(c) displaying at least one output variable for each of said plurality of integrated circuit technologies in a graphical form so that said plurality of integrated circuit technologies are comparable based on said at least one output variable (See Henrichs col. 2, "display the value of a selected user-defined output parameter"; see Lee col. 3, lines 55-59).

6. For claim 2, Lee teaches:

The method of claim 1, wherein said plurality of integrated circuit technologies comprises Platform ASIC (application-specific). (Lee teaches that the performance of any integrated circuit technology can be simulated).

7. For claim 3, Lee teaches:

The method of claim 2, wherein said plurality of integrated circuit technologies further comprises ASIC (application-specific integrated circuit) and FPGA (field-programmable gate array). (Lee teaches that the performance of any integrated circuit technology can be simulated.)

8. For claim 4, Lee teaches:

The method of claim 1, wherein said input variables comprise number of customizable gates, maximum time to prototype, and yearly product volume (Lee teaches that any variable can be inputted, see "model parameters", "may have physical meaning", "may indicate simple coefficients in SPICE", see col. 1, lines 15-32, col. 2, lines 15-18).

9. For claim 5, Lee teaches:

The method of claim 4, wherein said input variables further comprise number of IP (intellectual property) blocks (Lee teaches that any variable can be inputted, see "model parameters", "may have physical meaning", "may indicate simple coefficients in SPICE", see col. 1, lines 15-32, col. 2, lines 15-18).

10. For claim 6, Microsoft Excel™ teaches:

The method of claim 1, wherein said input variables are set with sliders in a task window of a graphical user interface by a user (For example: after creating an object choose Fill Color, More Fill Colors, Custom; slide bar on side allows user to adjust color input).

11. For claim 7, Lee teaches:

The method of claim 1, wherein said at least one output variable comprises risk and cost (Lee discloses that any output can be calculated, see col. 2, lines 15-19).

12. For claim 8, Microsoft Excel™ teaches:

The method of claim 7, wherein said graphical form is a 3-D plot having a first axis for time to prototype, a second axis for said cost, and a third axis for said risk (Microsoft Excel™ contains this function, and inherently can use any variables on any axis).

13. For claim 9, Microsoft Excel™ teaches:

The method of 8, wherein each of said plurality of integrated circuit technologies has a separate 3-D plot (Microsoft Excel™ contains this function, and can inherently make separate plots).

14. For claim 10, Lee teaches:

The method of claim 1, wherein said at least one output variable comprises success and cost (Lee teaches that any output can be calculated, see col. 2, lines 15-19).

15. For claim 11, Microsoft Excel™ teaches:

The method of claim 10, wherein said graphical form is a 3-D plot having a first axis for time to prototype, a second axis for said cost, and a third axis for said success (Microsoft Excel™ contains this function, and can inherently make 3-D plots with three axes for any three variables).

16. For claim 12, Microsoft Excel™ teaches:

The method of 11, wherein said plurality of integrated circuit technologies have a single 3-D plot, and each of said plurality of integrated circuit technologies is represented by different color (Microsoft Excel™ contains this function, and can inherently represent different variables with different colors).

17. For claim 13, Microsoft Excel™ teaches:

The method of claim 1, wherein said graphical form comprises a scatter plot having a first axis for time to prototype, a second axis for number of customizable gates, and a third axis for yearly volume, said scatter plot having a plurality of dots, each dot in color representing one of said plurality of integrated circuit technologies with the least cost or in color representing infeasibility (Microsoft Excel™ contains this function, and can inherently represent different variables with different colors).

18. For claim 14, Microsoft Excel™ teaches:

The method of claim 13, wherein said graphical form further comprises a bar chart showing a slack profit for one of said plurality of integrated circuit technologies for a selected dot (Microsoft Excel™ contains this function).

19. For claim 15, Heath teaches:

The method of claim 14, wherein when a user moves a value along one of said axes of said scatter plot, said bar chart changes dynamically in real time (See “Users simply select the $t^{\text{sub}0}$ slider and increase its value”, “...applets manipulate several parameters so the student can instantly see both the numerical and graphical solutions...”).

20. For claim 16, see rejection of claim 1. A computer-readable medium is inherently used as part of the Lee and Henrichs inventions.

21. For claim 17, see rejection of claim 2. A computer-readable medium is inherently used as part of the Lee and Henrichs inventions.

22. For claim 18, see rejection of claim 3. A computer-readable medium is inherently used as part of the Lee and Henrichs inventions.

23. For claim 19, see rejection of claim 4. A computer-readable medium is inherently used as part of the Lee and Henrichs inventions.

24. For claim 20, see rejection of claim 5. A computer-readable medium is inherently used as part of the Lee and Henrichs inventions.

25. For claim 21, see rejection of claim 6. A computer-readable medium is inherently used as part of Microsoft Excel™.

26. For claim 22, see rejection of claim 7. A computer-readable medium is inherently used as part of the Lee and Henrichs inventions.

27. For claim 23, see rejection of claim 8. A computer-readable medium is inherently used as part of Microsoft Excel™.

28. For claim 24, see rejection of claim 9. A computer-readable medium is inherently used as part of Microsoft Excel™.

29. For claim 25, see rejection of claim 10. A computer-readable medium is inherently used as part of the Lee and Henrichs inventions.

30. For claim 26, see rejection of claim 11. A computer-readable medium is inherently used as part of Microsoft Excel™.

31. For claim 27, see rejection of claim 12. A computer-readable medium is inherently used as part of Microsoft Excel™.

32. For claim 28, see rejection of claim 13. A computer-readable medium is inherently used as part of Microsoft Excel™.

33. For claim 29, see rejection of claim 14. A computer-readable medium is inherently used as part of Microsoft Excel™.

34. For claim 30, see rejection of claim 15. A computer-readable medium is inherently used as part of the applets disclosed by Heath.

35. For claim 31, see rejection of claim 1. A computer system comprising a CPU, a display and a memory including an operating system having a GUI is inherently used as part of the Lee and Henrichs inventions.

36. For claim 32, see rejection of claim 2. A computer system is inherently part of the Lee and Henrichs inventions.

37. For claim 33, see rejection of claim 3. A computer system is inherently part of the Lee and Henrichs inventions.

38. For claim 34, see rejection of claim 4. A computer system is inherently part of the Lee and Henrichs inventions.

39. For claim 35, see rejection of claim 5. A computer system is inherently part of the Lee and Henrichs inventions.

40. For claim 36, see rejection of claim 6. A computer system is inherently part of Microsoft Excel™.

41. For claim 37, see rejection of claim 7. A computer system is inherently part of the Lee and Henrichs inventions.

42. For claim 38, see rejection of claim 8. A computer system is inherently part of Microsoft Excel™.

43. For claim 39, see rejection of claim 9. A computer system is inherently part of Microsoft Excel™.

44. For claim 40, see rejection of claim 10. A computer system is inherently part of Microsoft Excel™.

45. For claim 41, see rejection of claim 11. A computer system is inherently part of Microsoft Excel™.

46. For claim 42, see rejection of claim 12. A computer system is inherently part of Microsoft Excel™.

47. For claim 43, see rejection of claim 13. A computer system is inherently part of Microsoft Excel™.

48. For claim 44, see rejection of claim 14. A computer system is inherently part of Microsoft Excel™.

49. For claim 45, see rejection of claim 15. A computer system is inherently part of the applets disclosed by Heath.

50. For claim 46, a computer system of claim 31, wherein said central processing unit is located in a server, and said memory is located in a client is an obvious variation, due to its commonly known usage.

Response to Arguments

51. Applicant's arguments filed 9/21/06 have been fully considered but they are not persuasive.

52. Applicant argues that Lee does not mention integrated circuit technologies, and only compares the electrical characteristics of specific simulated circuits. On the contrary, Lee teaches the simulation of the performance of an integrated circuit design (see Abstract) using model parameter sets that are input to a simulation program, the performances of the integrated circuit are simulated, and the simulated performances are compared with one another (see column 3, lines 43 to 62).

53. Incidentally, in "Background of the Invention", no definition of 'integrated circuit technologies' is given, only examples. Thus, the term is broad enough to cover all instances of integrated circuit comparisons.

54. Applicant argues that Henrichs fails to teach displaying output variables for each integrated circuit technology in a graphical form. Examiner was not relying upon Henrichs for this teaching. Lee provides the teaching of receiving input variables for a plurality of integrated circuit technologies. Henrichs is provided for concept of displaying user-defined output parameters. It is the combined teachings that the Examiner is relying upon to address the limitations of the claim and it is clear from the above rejections as to which piece of art teaches which portion of the claims. Rejections are maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date


of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nithya Janakiraman whose telephone number is 571-270-1003. The examiner can normally be reached on Monday-Thursday, 8:00am-5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on (571)272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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10/12/06